AMENDMENTS TO THE CLAIMS

Following please find a complete listing of the pending claims:

1. (Original) A storage network, comprising:

a plurality of storage cells, at least one storage cell including physical storage media and a storage media controller that controls data transfer operations with the storage media;

a plurality of host computers configurable to execute write operations to at least one storage cell;

at least one write control server that regulates the write operations of one or more of the plurality of host computers; and

a communication network that provides communication connections between the storage cells, the host computers, and the write control server.

2. (Original) The storage network of claim 1, wherein the plurality of storage cells are geographically distributed.

3. (Original) The storage network of claim 1, wherein at least one of the plurality of host computers executes write operations to store data in a primary storage unit.

4. (Original) The storage network of claim 3, wherein data written to the primary storage unit is replicated to a secondary storage unit.

5. (Original) The storage network of claim 1, wherein the write control server implements a write permission queue to regulate write operations of the host computers.

6. (Original) The storage network of claim 5, wherein the write control server grants write permission to only a single host computer in the write permission queue at any point in time.

7. (Original) The storage network of claim 5, wherein:
the write control server grants write permission to a plurality of the host computers in the write permission queue at any point in time; and
the write control server maintains a write permission log.

8. (Original) The storage network of claim 5, wherein:
host computers submit write requests to the write control server; and
the write control server implements a reverse handicapping routine when positioning the write requests in the write permission queue.

9. (Original) The storage network of claim 8, wherein the reverse handicapping routine delays incoming write requests to compensate for an estimated travel time from a host computer to the write control server.

10. (Currently Amended) A method executing on hardware of managing data transfer operations between a host computer and at least one data storage device in a storage network, comprising:

generating, at the host computer, a write request;

transmitting the write request to a write control server;

receiving, from the write control server, a signal granting permission to execute a write operation; and

in response to the signal, initiating a write operation to the at least one storage device in the storage network.

11. (Original) The method of claim 10, further comprising transmitting, to the write control server, a signal indicating a time at which the write operation is initiated.

12. (Original) The method of claim 10, further comprising transmitting, to the write control server, a signal indicating a time at which the write operation is completed.

13. (Original) The method of claim 10, further comprising storing in a memory location communicatively connected to the host computer:

a first signal indicating a time at which the write operation is initiated;

a second signal indicating a time at which the write operation is

completed;

first information indicating contents of the write operation; and

second information indicating a status of the write operation.

14. (Original) The method of claim 10 further comprising transmitting a signal to the write control server if the write operation fails.

15. (Original) The method of claim 10, further comprising:

receiving, from the write control server, a failure signal including a time stamp; and

reversing write operations performed after a time based on the time indicated on the time stamp.

16. (Original) One or more computer readable media comprising logic instructions that, when executed on a processor, cause the processor to perform the operations of claim 10.

17. (Currently Amended) A method executing on hardware of managing data transfer operations between a plurality of host computers and a plurality of data storage devices in a storage network, comprising:

receiving, at a write control server, write requests from the plurality of host computers communicatively connected to the storage network;

storing the write requests in a write permission queue; and

transmitting a permission signal to at least one host computer associated with a write request in the write permission queue, wherein the permission signal grants permission to the host computer to initiate write operations.

18. (Original) The method of claim 17, further comprising receiving, from a host computer, a status signal indicating that a write operation is complete.

19. (Original) The method of claim 18, further comprising transmitting a permission signal to another host computer associated with a write request in the write permission queue, wherein the permission signal grants permission to the host computer to initiate write operations, if the status signal indicates that a prior write operation was completed successfully.

20. (Original) The method of claim 17, wherein:

the write requests include a time stamp; and

storing the write requests in a write permission queue comprises storing the write requests in order based on the time stamps.

21. (Original) The method of claim 18, further comprising implementing a reverse handicapping routine when positioning the write requests in the write permission queue.

22. (Original) The method of claim 19, wherein the reverse handicapping routine delays incoming write requests to compensate for an estimated travel time from a host computer to the write control server.

23. (Original) The method of claim 17, further comprising:

receiving, from a host computer, a status signal indicating that a write operation has been initiated, wherein the status signal comprises a time stamp; and

storing the status signal in a memory location communicatively connected to the write control server.

24. (Original) The method of claim 21, further comprising:

receiving, from a host computer, a status signal indicating that a write operation has failed;

retrieving, the time stamp from the status signal associated with the failed write operation; and

transmitting to at least one host computer a write failure signal comprising the retrieved time stamp.

25. (Original) The method of claim 22, wherein, in response to the write failure signal, the at least one host computer reverses write operations performed after a time based on the time indicated on the time stamp.

26. (Original) One or more computer readable media comprising logic instructions that, when executed on a processor, cause the processor to perform the data transfer operations of claim 17.

27. (Currently Amended) A method executing on hardware of managing data transfer operations between a host computer and at least one data storage device in a storage network, comprising:

receiving, at the host computer, a signal comprising a universal timing indicator;

initiating, at the host computer, a write operation to at least one storage device in the storage network;

associating timing information that identifies the universal timing indicator with the write operation; and

transmitting a write failure signal including the timing information to at least one network component in the storage network if the write operation fails.

28. (Currently Amended) The method of claim [[25]] 27, wherein associating timing information that identifies the universal timing indicator with the write operation comprises storing the timing indicator in an entry in an undo log.

29. (Currently Amended) The method of claim [[25]] 27, comprising transmitting the write failure signal to a plurality of host computers in the storage network.

30. (Currently Amended) The method of claim [[27]] 29, wherein transmitting the write failure signal to a plurality of host computers in the storage network comprises transmitting the write failure signal to a write control server.

31. (Currently Amended) The method of claim [[25]] 27 wherein, in response to receiving the write control signal, the plurality of host computers terminates the write operation.

32. (Currently Amended) The method of claim [[26]] 28 wherein, in response to receiving the write control signal, the plurality of host computers undo write operations initiated after the time indicator in the write failure signal.

33. (Currently Amended) One or more computer readable media comprising logic instructions that, when executed on a processor, cause the processor to perform the data transfer operations of claim [[25]] 27.